

A method is described for evaporating liquid samples contained in sample holders (5a, 5b) mounted within a chamber (14) and rotated by the rotor during an evaporation process in which the pressure in the chamber is reduced below atmospheric and the sample holders are rotated at high speed so as to exert centrifugal force on the contents of the holders (5a, 5b). Heat is supplied to elevate the temperature of liquid component of the samples to assist in the evaporation process. The temperature of the sample material is continuously or regularly monitored during the evaporation process and temperature signals are transmitted to a remote computing means which is programmed to generate a control signal for controlling the supply of heat to the samples and controlling the evaporation process. The temperature may be sensed by a probe in a sample holder containing an evaporating liquid sample, or in an adjoining sample holder containing a buffer-liquid. The rotational speed is also sensed and a speed signal conveyed to the computing means. In an alternative method the rate of flow of vapour from the chamber is monitored and a flow rate signal is computed which is also supplied to the computer means and the evaporation process is controlled in relation to the value of the vapour flow rate signal. Improved methods of heating and means for supporting sample holders which are to be heated, to achieve more uniform heating thereof, within an evaporating chamber, are described. Apparatus for performing the various methods is also described.